



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/663,632

09/16/2003

Cuong H. Tran

5760-13100

1916

35690

7590

09/26/2008

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.

P.O. BOX 398

AUSTIN, TX 78767-0398

EXAMINER

TRUONG, CAMQUY

ART UNIT

PAPER NUMBER

2195

MAIL DATE

DELIVERY MODE

09/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/663,632	Applicant(s) TRAN, CUONG H.	
	Examiner CAMQUY TRUONG	Art Unit 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/11/04, 5/23-05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-25 are presented for examination.
2. The drawings filed on 12/22/2003 had been accepted by examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The claim language in the following claims is not clearly understood:

i. As to claims 1, 13 and 24, line 6, it is not clearly understood whether “ a copy of the checkpoint segment” refers to “ replicate a checkpoint segment” in line 2. For examining purpose, examiner will treat them as being the same one.

Applicant is required to use the same term in the claims. Appropriate correction is required in response to this office action.

Claim Rejections - 35 USC § 102

Art Unit: 2195

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Lim et al. (U.S. 6,795,966 B1).

5. As to claim 1, Lim taught the invention as claimed including computer accessible medium encoded with instructions which, when executed:

replicate a checkpoint segment from a first local storage of a first node to at least one other node (whereby the state of the source virtual machine of the checkpoint segment is replicated in the secondary virtual machines, col. 32, lines 44-45), wherein the checkpoint segment is stored into the first local storage by an application (Virtual Machine i(j) be the checkpoint of virtual machine I, the state vector for the state of Virtual Machine I at checkpoint j is saved in storage, col. 20, lines 22-25), and wherein the checkpoint segment comprises a state of the application (each checkpoint comprising a list of total state of the virtual machine, col. 6, lines 49-52; col. 12, lines 29-32); and

load a copy of the checkpoint segment from the at least one other node into a second local storage of a second node responsive to a request (user of virtual

Art Unit: 2195

machine would then be issuing a restoration signal, col. 26, lines 52-56) from the second node to load the copy (loading into at least one secondary virtual machine selected among the plurality of virtual machine, a checkpoint corresponding to the total state of different one of the virtual machines, whereby the state of the source virtual machine is replicated in the secondary virtual machines, col. 32, lines 34-44), wherein the second node is to execute the application (starting execution of each secondary virtual machine from the checkpoint state of the source virtual machine, col. 32, lines 44-45)..

6. As to claim 2, Lim teaches the checkpoint segment is identified by a checkpoint segment name that is unique within a cluster including the first node and the second node (the snapshot is implemented including an identifier called an epoch number, col. 2, lines 46).

7. As to claims 3 and 5, Lim teaches the at least one other node comprises two or more other nodes (col. 2, lines 41-46; col. 27, line 65 – col. 28, line 11).

8. As to claim 4, Lim teaches the request to load the copy is issued by the application executing on the second node (the snapshot is implemented including an identifier called an epoch number, col. 2, lines 46).

9. As to claim 6, Lim teaches the instructions (virtual machine instruction, col. 6,

Art Unit: 2195

lines 40-45), when executed, retrieve the copy from one of the at least one other node responsive to the request (the snapshot is implemented including an identifier called an epoch number, col. 2, lines 46).

10. As to claim 7, Lim teaches the at least one other node is configured to load the copy into a global storage, and wherein the instructions, when executed, retrieve the copy from the global storage responsive to the request (shared image, col. 22, lines 5-19).

11. As to claim 8, Lim teaches the instructions, when executed, replicate the checkpoint segment by performing at least:

reading the checkpoint segment from the first local storage of the first node (state of vector to be read, col. 11, lines 17-19; col. 13, lines 50-52); and

transmitting the checkpoint segment to the at least one other node (restored, col. 11, lines 17-19; col. 13, lines 52-53).

12. As to claims 9-10, Lim teaches the instructions, when executed:

receive the checkpoint segment from the first node in the at least one other node (loading into at least one secondary virtual machine selected among the plurality of virtual machine, a checkpoint corresponding to the total state of different one of the virtual machines, whereby the state of the source virtual machine is replicated in the secondary virtual machines, col. 28, lines 44-50; col. 32, lines 34-44); and

Art Unit: 2195

store the checkpoint segment in the at least one other node (the state vector may be transmitted directly over a transmission medium to a remote computer system that receives and restores the state vector into another virtual machine, col. 28, lines 44-50).

13. As to claim 11, Lim teaches the at least one other node is configured to load the copy into a global storage, and wherein the instructions, when executed:

receive the checkpoint segment from the first node; and store the checkpoint segment in the global storage (the state vector may be transmitted directly over a transmission medium to a remote computer system that receives and restores the state vector into another virtual machine, col. 11, lines 17-19; col. 28, lines 44-50).

14. As to claim 12, Lim teaches the at least one other node is not capable of executing the application (col. 2, lines 9-12).

15. As to claim 13, it is rejected for the same reason as claim 1.

16. As to claim 14, it is rejected for the same reason as claim 3.

17. As to claim 15, it is rejected for the same reason as claim 4.

18. As to claim 16, it is rejected for the same reason as claim 5.

19. As to claim 17, it is rejected for the same reason as claim 6.

- 20. As to claim 18, it is rejected for the same reason as claim 7.
- 21. As to claim 19, it is rejected for the same reason as claim 8.
- 22. As to claim 20, it is rejected for the same reason as claim 9.
- 23. As to claim 21, it is rejected for the same reason as claim 10.
- 24. As to claim 22, it is rejected for the same reason as claim 11.
- 25. As to claim 23, it is rejected for the same reason as claim 12.
- 26. As to claim 24, it is rejected for the same reason as claim 1.
- 27. As to claim 25, it is rejected for the same reason as claim 12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAMQUY TRUONG whose telephone number is (571)272-3773. The examiner can normally be reached on 9:00am - 5:30pm.

Art Unit: 2195

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng Ai An can be reached on (703)305-9678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195

Camquy Truong
September 8, 2008